Using Macro Transit as a Response to COVID - 19
COVID-19 has reduced public transit ridership by 60-80% compounding historically unsustainable commuting trends.
There is no solution to service low-demand areas efficiently with fixed routes, resulting in a vicious cycle caused by inconvenience.
Solving the problem with an on-demand solution.

Pantonium’s solution employs a proprietary algorithm to dynamically and flexibly route buses in real-time to achieve:

- Higher productivity (15-30 RSH)
- Greater service coverage
- Reduced cost, wait times, ride times, transfers
Belleville Transit’s COVID-19 Response

• 80% decline in ridership
• Social distancing on vehicles, rear door boarding
• Increased vehicle cleaning costs
• No fare collection
• Unsustainable cost to offer normal transit schedules

Starting March 27th
On-demand service only
5-6 vehicles covering entire city
operating from 7 AM – 12 AM
Return to Normality: June - September

• Belleville returns to daytime fixed route service and on-demand night service
• Pantonium had collected thousands of trips worth of origin-destination and time pairings, mainly for commuters and citizens making essential trips
• Data was used to develop new fixed routes to compliment on-demand transit
Stage Three: Hybrid Model September - Present

• Belleville added fixed routes for stops with high demand that occurs regularly (orange and blue dots)

• While kept stops with infrequent and low demand covered by on-demand service (yellow dots)

• With a **Pantonium Grains** in effect, riders can request trips:
  - Between any two ODT stops
  - Between any fixed route stop and ODT stop
  - Between two stops on different fixed routes
  - In each case, no transfer is required
Ozark Regional Transit COVID Response

Rogers, AK, Population: 67,000

• The city added on-demand service to complement their fixed bus routes in January 2020, starting with a hybrid model
• After COVID spiked in the summer they faced reduced ridership, the city went full on-demand in July, replacing all fixed routes
• Ridership increased by 44% while ride times were reduced by 30%
• Shifting fixed route vehicles and stops to on-demand increased service levels
Sioux Falls, SD

Fixed Route replacement on Saturdays
• Running 9 buses to service 327 stops
• 79% of riders had to transfer at least once
• 19% of riders said it took longer than 45 minutes for their trip

RFP GOALS
• 15 minute average wait time
• 90% of trips 30 minutes or less,
• 90% of trips within 5 minutes or less of quoted time

OUTCOMES (after 6 weeks)
• 14 minute average wait time
• 81% of trips 30 minutes or less (only 8% took longer than 45 min)
• 93% of trips within 5 minutes or less of quoted time
• Only 6 vehicles are needed (3 saved) while improving rider experience
• No Transfers for any trips
Conclusions

• Transit Agencies with on-demand transit can respond to huge demand changes with agility

• Transit Agencies can use on-demand transit to not only replace fixed routes, but they can also compliment them with hybrid service

• On-demand transit can be used to reduce operations costs without impacting ridership or service levels

• Transit agencies with the right technology can do more service with less service hours
Thank you & Stay Safe

www.pantonium.com
luke.mellor@pantonium.com